

In the Application of:
Jesse H. GAYTAN
Serial No. 09/801,871

IN THE CLAIMS:

1. (Withdrawn) A process for making granules containing insecticidally active solid composition of Claim 32, said process comprising the steps of:
extruding homogeneous extrudates from an extrudable lubricated mixture comprising phosphoroamido(di)thioate solids a dissolvable poly(alkylene oxide) lubricant which is present in an amount within the range from 0.2 to 3 total wt%, and a solvent for said dissolvable polymer lubricant in an amount sufficient to dissolve said lubricant and form a lubricious, extrudable mixture, and
drying said extrudates to a residual solvent content of less than 1 wt%.
2. (Canceled)
3. (Withdrawn) A process according to claim 1 wherein said poly(alkylene oxide) is poly(ethylene oxide).
4. (Canceled)
5. (Canceled)
6. (Withdrawn) A process according to claim 1 wherein said poly(alkylene oxide) has a crystalline melting point within the range of 63° to 67° C.
7. (Canceled)
8. (Withdrawn) A process according to claim 1 wherein said lubricant is present in an amount within the range from about 0.2-0.75 total wt%.

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9. (Withdrawn) A process according to claim 1 wherein said mixture further includes an anticaking agent in an amount sufficient to prevent clumping of the dried extrudates.
10. (Withdrawn) A process according to claim 9 wherein said anticaking agent is present in an amount within the range from about 0.5-1.25 total wt%.
11. (Withdrawn) A process according to claim 1 wherein said solvent is selected from the group consisting of water, alcohol-water azeotropes, organic solvents, alcohols, ketones, dimethylsulfoxide, mono- or dialkyl ethers of ethylene glycol and their derivatives, anisole, 1,4-dioxane, ethyl acetate, ethylenediamine, mono- and dialkyl ethers of diethylene glycol and their derivatives, or a mixture of any of these.
12. (Withdrawn) A process according to claim 1 wherein said solvent is selected from the group consisting of acetonitrile, ethylene dichloride, trichloroethylene, methylene dichloride, benzene, dimethylformamide, and tetrahydrofuran.
13. (Withdrawn) A process according to claim 1 wherein said solvent is selected from the group consisting of methanol, isopropanol, and butanol.
14. (Withdrawn) A process according to claim 1 wherein said solvent is selected from the group consisting of methyl ethyl ketone, toluene, xylene, acetone and methyl isobutyl ketone.
15. (Withdrawn) A process according to claim 1 wherein said solvent is selected from the group consisting of dimethylsulfoxide, alcohols liquid at 10° - 100° C, and alcohol-water azeotropic mixtures.
16. (Canceled)

17. (Canceled)
18. (Withdrawn) A process for making acephate granules according to claim 32, wherein said process comprises the steps:
 - extruding into extrudates at ambient temperatures an extrudable lubricated mixture comprising (i) phosphoroamido(di)thioate solids, (ii) a poly(alkylene oxide) polymer lubricant that is solid at ambient temperatures, provides sufficient lubricity when dissolved in a solvent to allow extrusion of said composition through a 3 mm opening with a temperature rise of no more than 4° C and which acts as a binder for said granule when said solvent is removed, (iii) an anticaking agent, and (iv) a solvent for said polymer lubricant in an amount sufficient to dissolve said polymer lubricant and form said extrudable lubricated mixture, and
 - drying said extrudates to a moisture content of less than 1 total wt%.
19. (Canceled)
20. (Canceled)
21. (Withdrawn) A process according to claim 18 wherein said poly(alkylene oxide) comprises poly(ethylene oxide).
22. (Canceled)
23. (Canceled)
24. (Withdrawn) A process according to claim 18 wherein the extruded mixture is free of ammonium sulfate.

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25. (Withdrawn) A process according to claim 18 wherein the extruding step is at ambient temperature without control over the extrusion temperature.
26. (Withdrawn) A process according to claim 25 wherein said mixture is exposed to a temperature rise of less than about 4° C thru the extruding step.
27. (Withdrawn) A process according to claim 18 further including:
spraying a solution containing a said poly(alkylene oxide) and a said solvent therefore onto said phosphoroamido(di)thioate solids.
28. (Withdrawn) A process according to claim 18 wherein said anticaking agent includes silica.
29. (Withdrawn) A process according to claim 18 wherein said extrudable mixture consists essentially of acephate particulates, a poly(alkylene oxide) dissolved in said solvent, and an anticaking agent.
30. (Withdrawn) A process according to claim 18 wherein the extrusion mixture is substantially homogeneous and consists essentially of 0.2-0.75 total wt% of a poly(alkylene oxide) lubricant dissolved in water, 0.01-1.5 total wt% silica powder, and said phosphoroamido(di)thioate solids.
31. (Withdrawn) A process according to claim 18 wherein the extruding step is performed at an ambient temperature within the range of 15° to 25° C and said mixture is exposed to a temperature rise of less than about 4° C thru the extruding step.

32. (Previously Presented) An insecticidally active solid composition comprising:
phosphoroamido(di)thioate solids,
from 0.2 to 3 total wt% of a poly(alkylene oxide) as polymeric lubricant and
binder for said composition that is soluble in a solvent, solid at ambient
temperatures, and
a residual amount of a solvent for said polymeric lubricant in an amount of
less than 1 total wt%.
33. (Canceled)
34. (Canceled)
35. (Original) A composition according to claim 32 wherein said polymeric lubricant
comprises poly(ethylene oxide) or poly(butylene oxide).
36. (Previously Presented) A composition according to claim 32 wherein said solvent is
selected from the group consisting of water, alcohol-water azeotropes, organic
solvents, alcohols, ketones, dimethylsulfoxide, mono- or dialkyl ethers of ethylene
glycol, anisole, 1,4-dioxane, ethyl acetate, ethylenediamine, and mono- and dialkyl
ethers of diethylene glycol or a mixture of any of these.
37. (Original) A composition according to claim 32 wherein said solvent is selected
from the group consisting of acetonitrile, ethylene dichloride, trichloroethylene,
methylene dichloride, benzene, dimethylformamide, and tetrahydrofuran.
38. (Original) A composition according to claim 32 wherein said solvent is selected
from the group consisting of methanol, isopropanol, and butanol.

39. (Original) A composition according to claim 32 wherein said solvent is selected from the group consisting of methyl ethyl ketone, toluene, xylene, acetone and methyl isobutyl ketone.
40. (Previously Presented) A composition according to claim 32 wherein said solvent is selected from the group consisting of dimethylsulfoxide, alcohols that are liquid at 10° - 100° C, and alcohol-water azeotropic mixtures.
41. (Previously Presented) A composition according to claim 32 comprising:
0.1-1 total wt% poly(alkylene oxide),
0.01-1.5 total wt% silica anticaking agent,
acephate and
less than 1 total wt% solvent for said poly(alkylene oxide).
42. (Previously Presented) An insecticidally active solid composition according to claim 32 that is formed from an extrusion mass that comprises:
phosphoroamido(di)thioate solids,
a polymeric lubricant that is soluble in a solvent, and
a solvent for said polymeric lubricant/binder in an amount of less than 5 total wt% but in a quantity sufficient to form a lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.

43. (Previously Presented) An extrudable insecticidally active composition comprising:
phosphoroamido(di)thioate solids,
a poly(alkylene oxide) polymeric lubricant that is soluble in a solvent and normally solid at ambient temperature, and
a solvent for said polymeric lubricant in an amount of from 0.5 to less than 5 total wt% but in a quantity sufficient to dissolve said polymeric lubricant and form an extrudable, lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.
44. (Canceled)
45. (Amended) An extrudable insecticidally active composition comprising:
phosphoroamido(di)thioate solids,
0.2-0.75 total wt% of a poly(alkylene oxide) polymeric lubricant that is normally solid at ambient temperature and dissolved in a solvent, and
a solvent for said polymeric lubricant in an amount of from 0.5 to less than 5 total wt% but in a quantity sufficient to dissolve said polymeric lubricant and form an extrudable, substantially homogeneous, lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.~~A composition according to claim 43 wherein said lubricious mixture is substantially homogeneous and comprises 0.2-0.75 total wt% of a poly(alkylene oxide) lubricant dissolved in said solvent.~~
46. (Previously Presented) A composition according to claim 45 wherein said composition further comprises 0.01-1.5 total wt% silica powder and 2-4 total wt% water.

47. (Amended) ~~A composition according to claim 43 wherein said polymeric lubricant is normally solid at room temperature~~ An extrudable insecticidally active composition comprising:
phosphoroamido(di)thioate solids,
a poly(alkylene oxide) polymeric lubricant that is soluble in a solvent,
normally solid at room temperature, and is present in sufficient quantity to bind together said phosphoroamido(di)thioate solids when said composition is dried to a residual solvent content within the range of 0.01-0.5 total wt%, and
a solvent for said polymeric lubricant in an amount of from 0.5 to less than 5 total wt% but in a quantity sufficient to dissolve said polymeric lubricant and form an extrudable, lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.
48. (Previously Presented) An insecticidally active solid composition comprising:
phosphoroamido(di)thioate solids,
a poly(alkylene oxide) lubricant/binder that is solid at ambient temperatures and soluble in a solvent, and
a solvent for said lubricant/binder comprising dimethylsulfoxide in an amount of 0.01-0.5 total wt%.
49. (Previously Presented) A composition according to claim 32 wherein said phosphoroamido(di)thioate solids comprise acephate.
50. (Previously Presented) A composition according to claim 32 wherein the poly(alkylene oxide) has a crystalline melting point within the range from 63°C to 67°C.

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51. (Previously Presented) A composition according to claim 32 wherein the polymeric lubricant is present in an amount within the range from 0.2-0.75 total wt%.
52. (Previously Presented) A composition according to claim 32 wherein the solvent is present in an amount from 0.001 to 0.5 total wt%.
53. (Previously Presented) A composition according to claim 43 wherein the poly(alkylene oxide) has a crystalline melting point within the range from 63°C to 67°C.
54. (Previously Presented) A composition according to claim 43 wherein the polymeric lubricant is present in an amount within the range from 0.2-0.75 total wt%.
55. (Previously Presented) A composition according to claim 43 wherein the solvent is present in an amount from 0.5 to 4 total wt%.
56. (Previously Presented) A composition according to claim 43 wherein said phosphoroamido(di)thioate solids comprise acephate.

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57. (Amended) ~~A composition according to claim 42, wherein the extrusion mass was extruded~~ An insecticidally active solid composition comprising:

- phosphoroamido(di)thioate solids,
- from 0.2 to 3 total wt% of a poly(alkylene oxide) as polymeric lubricant and binder for said composition that is soluble in a solvent and solid at ambient temperatures, and
- a residual amount of a solvent for said polymeric lubricant in an amount of less than 1 total wt%

wherein,

said composition has been formed from an extrusion mass by extrusion with a temperature rise of less than 4°C thru an extrusion die, said extrusion mass comprising:

- (a) said phosphoroamido(di)thioate solids,
- (b) said polymeric lubricant and binder, and
- (c) said solvent for said polymeric lubricant and binder in an amount of less than 5 total wt% but in a quantity sufficient to form a lubricious mixture of: (i) said phosphoroamido(di)thioate solids, (ii) said polymeric lubricant and binder, and (iii) said solvent.

58. (Previously Presented) An insecticidally active solid composition that has been protected from exposure to heat during manufacture by extrusion at an ambient temperature within the range of 15° to 25° C with a temperature rise of no more than 4° C when passed through a 3 mm die, said composition comprising:

acephate solids,

a poly(alkylene oxide) polymeric lubricant that is soluble in a solvent, solid at ambient temperatures, provides lubricity when dissolved in a solvent, and which acts as a binder for said acephate solids when said solvent is removed, and

a residual amount of solvent for said polymeric lubricant in an amount of less than 1 total wt%.

59. (Previously Presented) An insecticidally active solid composition that is formed from an extrusion mass that comprises:
- acephate solids,
 - a polymeric lubricant that is soluble in a solvent, solid at ambient temperatures, provides lubricity when dissolved in a solvent, and which acts as a binder for said acephate solids when said solvent is removed, and
 - a solvent for said polymeric lubricant/binder in an amount of less than 5 total wt% but in a quantity sufficient to form a lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.
60. (Previously Presented) An extrudable, insecticidally active composition comprising:
- acephate solids,
 - a polymeric lubricant that is soluble in a solvent, normally solid at ambient temperature, provides sufficient lubricity when dissolved in a solvent to allow extrusion of said composition through a 3 mm opening with a temperature rise of no more than 4° C, and which acts as a binder for said acephate solids when said solvent is removed, and
 - a solvent for said polymeric lubricant in an amount of less than 5 total wt% but in a quantity sufficient to dissolve said polymeric lubricant and form a lubricious mixture of: (i) said acephate solids, (ii) said polymeric lubricant, and (iii) said solvent.
61. (New) A composition according to claim 45 wherein said polymeric lubricant comprises poly(ethylene oxide) or poly(butylene oxide).
62. (New) A composition according to claim 45 wherein said solvent is selected from the group consisting of dimethylsulfoxide, alcohols that are liquid at 10° - 100° C, and alcohol-water azeotropic mixtures.

63. (New) A composition according to claim 45 wherein the poly(alkylene oxide) has a crystalline melting point within the range from 63°C to 67°C.
64. (New) A composition according to claim 45 wherein the solvent is present in an amount from 0.5 to 4 total wt%.
65. (New) A composition according to claim 45 wherein said phosphoroamido(di)thioate solids comprise acephate.
66. (New) A composition according to claim 45 wherein said polymeric lubricant comprises poly(ethylene oxide) or poly(butylene oxide).
67. (New) A composition according to claim 47 wherein said solvent is selected from the group consisting of dimethylsulfoxide, alcohols that are liquid at 10° - 100° C, and alcohol-water azeotropic mixtures.
68. (New) A composition according to claim 47 wherein the poly(alkylene oxide) has a crystalline melting point within the range from 63°C to 67°C.
69. (New) A composition according to claim 47 wherein said composition further comprises 0.01-1.5 total wt% silica powder and 2-4 total wt% water.
70. (New) A composition according to claim 47 wherein the polymeric lubricant is present in an amount within the range from 0.2-0.75 total wt%.
71. (New) A composition according to claim 47 wherein the solvent is present in an amount from 0.5 to 4 total wt%.

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72. (New) A composition according to claim 47 wherein said phosphoroamido(di)thioate solids comprise acephate.
73. (New) A composition according to claim 57 wherein said polymeric lubricant comprises poly(ethylene oxide) or poly(butylene oxide).
74. (New) A composition according to claim 57 wherein said solvent is selected from the group consisting of dimethylsulfoxide, alcohols that are liquid at 10° - 100° C, and alcohol-water azeotropic mixtures.
75. (New) A composition according to claim 57 comprising:
0.1-1 total wt% poly(alkylene oxide),
0.01-1.5 total wt% silica anticaking agent,
acephate, and
less than 1 total wt% solvent for said poly(alkylene oxide).
76. (New) A composition according to claim 57 wherein said phosphoroamido(di)thioate solids comprise acephate.
77. (New) A composition according to claim 57 wherein the poly(alkylene oxide) has a crystalline melting point within the range from 63°C to 67°C.
78. (New) A composition according to claim 57 wherein the polymeric lubricant is present in an amount within the range from 0.2-0.75 total wt%.
79. (New) A composition according to claim 57 wherein the solvent is present in an amount from 0.001 to 0.5 total wt%.

80. (New) A process for making granules containing insecticidally active solid composition of Claim 57, said process comprising the steps of:

extruding homogeneous extrudates from an extrudable lubricated mixture comprising phosphoroamido(di)thioate solids a dissolvable poly(alkylene oxide) lubricant which is present in an amount within the range from 0.2 to 3 total wt%, and a solvent for said dissolvable polymer lubricant in an amount sufficient to dissolve said lubricant and form a lubricious, extrudable mixture, and

drying said extrudates to a residual solvent content of less than 1 wt%.